

RECEIVED
CENTRAL FAX CENTER
JUL 20 2006

II. AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application. Fees in the amount of \$4400.00 are included for the additional claims as follows:

| | | |
|---------------------------|----------------|-----------------|
| Added claims: | 64 @ \$50.00 = | \$3200.00 |
| Added Independent Claims: | 6 @ \$200.00 = | \$1200.00 |
| Total Fee paid: | | <hr/> \$4400.00 |

Listing of Claims:

1-84. (Cancelled)

85. (Original): A method of automated sample processing comprising the steps of:
 establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;
 scheduling a plurality of sample process operations;
 systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur;
 automatically processing at least one sample at least in part through operation of said robotic sample process functions sequencing through said scheduled plurality of sample process operations; and
 accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations; and
 providing information relative to said plurality of sample process operations to at least one person.
86. (Original): A method of automated sample processing as described in claim 85 wherein said step of establishing an automated sample processing system having

an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the step of establishing an automated slide processing system.

87. (Original): A method of automated sample processing as described in claim 86 wherein said step of automatically processing at least one sample comprises the steps of:
arranging a plurality of slides on a carrier retainment assembly;
applying a reagent to said plurality of slides; and
automatically staining said plurality of slides.
88. (Original): A method of automated sample processing as described in claim 87 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the steps of:
establishing a plurality of automated slide stainers; and
electronically connecting said plurality of automated slide stainers.
89. (Previously presented): A method of automated sample processing as described in claim 85 and further comprising the step of establishing a local area network electronically connected to said automated sample processing system.
90. (Previously presented): A method of automated sample processing as described in claim 87 and further comprising the step of holding said plurality of slides on at least one movable carrier retainment assembly.
91. (Original): A method of automated sample processing as described in claim 87 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the steps of:
systematically storing time of occurrence data,

systematically storing substance identifier data,
systematically storing individual robotic movement data,
systematically storing subject sample data, and
systematically storing type of protocol data.

92. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing details selected from a group consisting of:
time of occurrence data, number of occurrence data, part operation data, amount of usage data, amount of material used data, type of material used data, substance identifier data, individual movement data, robotic action data, individual robotic movement data, individual operation data, individual usage data, actual date data, actual time data, precise time data, relative time data, absolute time data, initiation time data, completion time data, subject sample data, sample image data, individual sample process data, individual slide log data, system image data, substance image data, and type of protocol data.
93. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing amount of material used data.
94. (Original): A method of automated sample processing as described in claim 92 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing robotic action data.

95. (Original): A method of automated sample processing as described in claim 94 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing individual robotic movement data.
96. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing precise time data.
97. (Original): A method of automated sample processing as described in claim 96 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing relative time data.
98. (Original): A method of automated sample processing as described in claim 96 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing absolute time data.
99. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing image data.
100. (Original): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing sample image data.

101. (Original): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing substance image data.
102. (Original): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing system image data.
103. (Previously presented): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing multiple image data.
104. (Original): A method of automated sample processing as described in claim 103 wherein said step of systematically storing multiple image data comprises the step of systematically storing pre- and post-event image data.
105. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a segmented computer file.
106. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating an inalterable computer record.
107. (Original): A method of automated sample processing as described in claim 106 wherein said step of creating an inalterable computer record comprises the step of creating integral change indicia as part of said inalterable computer record.

108. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a common format computer record.
109. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a proprietary format computer record.
110. (Original): A method of automated sample processing as described in claim 85 wherein said step of accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations comprises the step of providing a software selection to a user.
111. (Original): A method of automated sample processing as described in claim 85 wherein said step of accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations comprises the step of utilizing a remote access connection.
112. (Original): A method of automated sample processing as described in claim 85 wherein said step of providing information relative to said plurality of sample process operations to at least one person comprises the step of displaying at least a portion of said information.
113. (Original): A method of automated sample processing as described in claim 112 wherein said step of displaying at least a portion of said information comprises the step of remotely displaying at least a portion of said information.

114. (Previously presented): A method of automated sample processing as described in claim 85 wherein said step of displaying at least a portion of said information comprises the step of real time displaying at least a portion of said information.
115. (Original): A method of automated sample processing as described in claim 112 wherein said step of displaying at least a portion of said information comprises the step of creating a simulated motion display from at least a portion of said information.
116. (Original): A method of automated sample processing as described in claim 85 wherein said step of providing information relative to said plurality of sample process operations to at least one person comprises the step of providing a sequential playback capability.
117. (Original): A method of automated sample processing as described in claim 116 wherein said step of providing a sequential playback capability comprises the step of providing an altered speed sequential playback capability.
118. (Original): A method of automated sample processing as described in claim 117 wherein said step of providing an altered speed sequential playback capability comprises the step of providing a user alterable speed sequential playback capability.
119. (Original): A method of automated sample processing as described in claim 117 wherein said step of providing an altered speed sequential playback capability comprises the step of providing a high speed sequential playback capability.
120. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process

operations occur comprises the step of systematically storing individual slide log data.

121. (Original): A method of automated sample processing as described in claim 85 and further comprising the step of real time displaying individual slide log data.
122. (Original): An automated sample processing system comprising:
at least one sample arranged on a carrier element;
a process operation control system configured to at least partially process said sample;
robotic motion system responsive to said process operation control system;
a multiple event scheduler to which said robotic motion system is at least in part responsive;
systematic process detail capture element;
a significant process detail memory responsive to said systematic process detail capture element and that stores at least some significant process data;
an information access prompt element to which said significant process data is responsive; and
a significant process data transfer element.
123. (Original): An automated sample processing system as described in claim 122 wherein said at least one sample arranged on a carrier element comprises a biological sample arranged on a slide.
124. (Original): An automated sample processing system as described in claim 123 wherein said process operation control system configured to at least partially process said sample comprises:
a plurality of slides on a carrier element retainment assembly;
at least one reagent container; and
a slide stain element configured to act upon said plurality of slides.

125. (Original): An automated sample processing system as described in claim 124 and further comprising:
a plurality of automated slide stainers; and
an electronic connection to said plurality of automated slide stainers.
126. (Previously presented): An automated sample processing system as described in claim 122 and further comprising a local area network electronically connected to a stand alone automated slide processing system.
127. (Previously presented): An automated sample processing system as described in claim 124 wherein said carrier element comprises a movable carrier element.
128. (Original): An automated sample processing system as described in claim 124 wherein said systematic process detail capture element comprises:
a time of occurrence data capture element,
an individual robotic movement data capture element,
a substance identifier data capture element,
a subject sample data capture element, and
a type of protocol data capture element.
129. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises a systematic process detail capture element selected from a group consisting of:
a time of occurrence data capture element, a number of occurrence data capture element, a part operation data capture element, an amount of usage data capture element, an amount of material used data capture element, a type of material used data capture element, a substance identifier data capture element, an individual movement data capture element, a robotic action data capture element, an individual robotic movement data capture element, an individual operation data capture element, an individual usage data capture element, an actual date data

capture element, an actual time data capture element, a precise time data capture element, a relative time data capture element, an absolute time data capture element, an initiation time data capture element, a completion time data capture element, a subject sample data capture element, a sample image data capture element, an individual sample process data capture element, individual slide log data capture element, a system image data capture element, a substance image data capture element, and a type of protocol data capture element.

130. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an amount of material used data capture element.
131. (Original): An automated sample processing system as described in claim 129 wherein said systematic process detail capture element comprises a robotic action data capture element.
132. (Original): An automated sample processing system as described in claim 131 wherein said systematic process detail capture element comprises an individual robotic movement data capture element.
133. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises a precise time data capture element.
134. (Original): An automated sample processing system as described in claim 133 wherein said systematic process detail capture element comprises a relative time data capture element.
135. (Original): An automated sample processing system as described in claim 133 wherein said systematic process detail capture element comprises an absolute time data capture element.

136. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an image data capture element.
137. (Original): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a sample image data capture element.
138. (Original): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a substance image data capture element.
139. (Original): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a system image data capture element.
140. (Previously presented): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a multiple image data capture element.
141. (Original): An automated sample processing system as described in claim 140 wherein said multiple image data capture element comprises a pre- and post-event image data capture element.
142. (Original): An automated sample processing system as described in claim 122 wherein said significant process detail memory comprises a segmented computer file memory element.

143. (Original): An automated sample processing system as described in claim 122 wherein said significant process detail memory comprises an inalterable computer record memory element.
144. (Original): An automated sample processing system as described in claim 143 wherein said significant process detail memory comprises an integral change indicia memory element.
145. (Original): An automated sample processing system as described in claim 142 wherein said significant process detail memory comprises a common format computer record memory element.
146. (Original): An automated sample processing system as described in claim 142 wherein said significant process detail memory comprises a proprietary format computer record memory element.
147. (Original): An automated sample processing system as described in claim 122 wherein said information access prompt element comprises a software selection element.
148. (Original): An automated sample processing system as described in claim 122 wherein said information access prompt element comprises a remote access element.
149. (Original): An automated sample processing system as described in claim 122 and further comprising a significant process detail information display that is responsive to said significant process detail memory.
150. (Original): An automated sample processing system as described in claim 149 wherein said significant process detail information display comprises a remote process detail information display.

151. (Previously presented): An automated sample processing system as described in claim 122 wherein said significant process detail information display comprises a real time process detail information display.
152. (Original): An automated sample processing system as described in claim 149 wherein said significant process detail information display comprises a simulated motion process detail information display.
153. (Original): An automated sample processing system as described in claim 122 and further comprising a sequential playback element.
154. (Original): An automated sample processing system as described in claim 153 wherein said sequential playback element comprises an altered speed sequential playback element.
155. (Original): An automated sample processing system as described in claim 154 wherein said altered speed sequential playback element comprises a user alterable speed sequential playback element.
156. (Original): An automated sample processing system as described in claim 154 wherein said altered speed sequential playback element comprises a high speed sequential playback element.
157. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an individual slide log data capture element.
158. (Original): An automated sample processing system as described in claim 122 and further comprising a real time individual slide log data display.

159. (Previously presented): A laboratory instrument information management and control apparatus, comprising:
a Laboratory Information System (LIS) configured to manage patient and laboratory information;
at least one laboratory instrument configured to run anatomical pathology tests relating to at least one patient;
at least one host computer in communication with said at least one laboratory instrument;
an interface point server (IPS) in communication with said host computer and said LIS, said interface point server configured to function as a communication interface between said host computer and said hospital laboratory information system in a manner responsive to a predetermined communication protocol, and said IPS comprising a first level interface for data communication and control between said LIS and said IPS, and said IPS comprising a second level interface for data communication and control between said at least one laboratory instrument and said IPS.
160. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one laboratory instrument comprises at least two automated slide staining systems, and said second level interface of said IPS controls data communication and control between said at least two automated slide staining systems and said IPS, and said second level interface of said IPS controls data communication and control among said at least two automated slide staining systems.
161. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one laboratory instrument configured to run tests relating to at least one patient includes said at least one host computer in communication with said at least one laboratory instrument as an integral part of said at least one laboratory instrument.

162. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said predetermined communication protocol governs data exchange, data management and integration of data in accordance with one of Health Level Seven (HL7) protocol, or IEEE 1073 standard for Medical Device Communications.
163. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one host computer is in communication with said at least one laboratory instrument via at least one of a wireless connection, a serial connection, a parallel connection and an Ethernet connection.
164. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said hospital laboratory information system is in communication with the interface point server via at least one of an Ethernet connection and an Internet connection.
165. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one laboratory instrument comprises at least two automated slide staining systems, and said second level interface controls data sharing among said at least two automated slide staining systems.
166. (Previously presented): The laboratory instrument information management and control apparatus of claim 165 wherein said data sharing among said at least two automated slide staining systems includes data comprising staining protocols; user passwords and privileges; reagent dispensers; reagent vials; cases; keycodes; templates; panels; and 3rd party reagents.
167. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said laboratory

information system manages the workflow for anatomical pathology in a laboratory, including at least one of pathology order placement; slide processing optimization on multiple instruments; slide identification through the process; bar code use; reagent use and supply; reagent sharing between laboratory instruments; and operator in-service qualification.

168. (Previously presented): The laboratory instrument information management and control apparatus of claim 159 wherein said laboratory information system is a hospital laboratory information system.
169. (Previously presented) A method for communication between a laboratory information system and at least one host computer comprising the steps of: configuring an interface point network including an interface point server (IPS) in communication with a laboratory information system and at least one host computer managing data and control for at least one anatomical pathology laboratory instrument, said at least one host computer including host data and being in communication with said at least one laboratory instrument; operating said interface point server to broadcast a message across said interface point network, wherein said message includes information responsive to data present on said IPS; determining if differences exist between said host data and said data present on said IPS; and updating at least one of said IPS and said at least one host computer in a manner responsive to at least one of said host data and said data present on said IPS.
170. (Previously presented) The method of claim 169 wherein said at least one host computer comprises more than one host computer and the method further includes the step of sharing of data among said more than one host computer.
171. (Previously presented) The method of claim 170 wherein said sharing of data among said more than one host computer includes data comprising staining

protocols; user passwords and privileges; reagent dispensers; reagent vials; cases; keycodes; templates; panels; and 3rd party reagents.

172. (Previously presented) The method of claim 169 wherein said laboratory information system manages the workflow for anatomical pathology in a laboratory, including at least one of pathology order placement; slide processing optimization on multiple instruments; slide identification through the process; bar code use; reagent use and supply; reagent sharing between laboratory instruments; and operator in-service qualification.
173. (Previously presented) The method of claim 169 wherein said at least one host computer managing data and control for at least one anatomical pathology laboratory instrument is an integral part of said at least one laboratory instrument
174. (Previously presented) The method of claim 169 wherein said interface point server (IPS) in communication with said laboratory information system communicates via a predetermined communication protocol that governs data exchange, data management and integration of data in accordance with one of Health Level Seven (HL7) protocol, or IEEE 1073 standard for Medical Device Communications.
175. (Previously presented) A method for laboratory instrument information management and control, comprising the steps of:
configuring a Laboratory Information System (LIS) to manage patient and laboratory information in accordance with Health Level Seven protocol;
configuring at least two automated slide staining laboratory instruments to run anatomical pathology tests relating to at least one patient;
configuring at least one host computer in communication with said at least two slide staining laboratory instruments;
configuring a server in communication with said at least one host computer and said LIS, said server comprising a first level interface for data communication and

control between said LIS and said server, and said server comprising a second level interface for data communication and control between said at least two automated slide staining laboratory instruments and said server, wherein said server is further configured for data sharing among said at least one host computer and said at least two automated slide staining laboratory instruments.

176. (Previously presented) The method for laboratory instrument information management and control of claim 175 wherein said data sharing among said at least two automated slide staining laboratory instruments includes data comprising staining protocols; user passwords and privileges; reagent dispensers; reagent vials; cases; keycodes; templates; panels; and 3rd party reagents.
177. (Previously presented) The method for laboratory instrument information management and control of claim 175 wherein said laboratory information system manages the workflow for anatomical pathology in a laboratory, including at least one of pathology order placement; slide processing optimization on multiple instruments; slide identification through the process; bar code use; reagent use and supply; reagent sharing between laboratory instruments; and operator in-service qualification.
178. (Previously presented) The method of claim 175 wherein said server in communication with said laboratory information system communicates via a predetermined communication protocol that governs data exchange, data management and integration of data in accordance with one of Health Level Seven (HL7) protocol, or IEEE 1073 standard for Medical Device Communications.
179. (Previously presented): A method of automated sample processing comprising the steps of:

establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;
monitoring operationally-influential exteriorly-consequential information;
automatically processing at least one sample at least in part through operation of said robotic sample process functions; and
automatically informing at least one person of at least some exteriorly-consequential information in response to said step of monitoring operationally-influential exteriorly-consequential information.

180. (Previously presented): A method of automated sample processing as described in claim 179 wherein said step of establishing an automated sample processing system comprises the step of incorporating a system having a feature selected from a group consisting of:
an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on a first stand alone automated sample processing system, a response transfer

functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.

181. (Previously presented): An automated sample processing system comprising:

at least one sample arranged on a carrier element;

a process operation control system configured to at least partially process said sample;

robotic motion system responsive to said process operation control system;

an operationally-influential exteriorly-consequential information monitor; and

an automatic exteriorly-consequential information notice element responsive to said operationally-influential exteriorly-consequential information monitor.

182. (Previously presented): An automated sample processing system as described in claim 181 wherein said process operation control system comprises a system having a feature selected from a group consisting of:

an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer

functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on a first stand alone automated sample processing system, a response transfer functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.

183. (Previously presented): A method of automated sample processing as described in claim 85 wherein said step of establishing an automated sample processing system comprises the step of incorporating a system having a feature selected from a group consisting of:
- an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on a first stand alone automated sample processing system, a response transfer functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.

184. (Previously presented): An automated sample processing system as described in claim 122 wherein said process operation control system comprises a system having a feature selected from a group consisting of:
an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on a first stand alone automated sample processing system, a response transfer functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.
185. (New): A method for configuring a host controlling at least one instrument in a laboratory comprising: configuring said host to have at least one local data element; and configuring said host to have at least one global data element, said at least one global data element having a common data definition and data value used by said host and at least one other host connected to said host, said at least one local data element having a data definition and data value used only by said

host, at least one of said data elements being used by said host in connection with processing performed by said at least one instrument.

186. (New): The method of claim 185, wherein said host and said at least one other host communicate with an interface server to maintain an up-to-date local copy of said at least one global data element.
187. (New): The method of claim 186, further comprising: configuring one local data element of said host as a new global data element; communicating said new global data element to said interface server; and configuring said at least one other host in accordance with said new global data element using said interface server.
188. (New): The method of claim 185, wherein said host, said at least one other host and said interface server are included in a laboratory network.
189. (New): The method of claim 188, wherein said interface server is connected to a laboratory information system.
190. (New): The method of claim 185, wherein said laboratory instrument is an anatomical pathology laboratory instrument.
191. (New): The method of claim 188, wherein said host performs offline processing with respect to said at least one other host and said interface server, and said host uses said at least one local data element in said offline processing with said at least one instrument.
192. (New): The method of claim 191, wherein said host synchronizes said at least one global data element with said interface server when said host completes said offline processing, said host and said at least one other host being configured to use different global data elements.

193. (New): The method of claim 185, wherein said data elements include at least one of: a user password, a user privilege, reagent information, patient information, sample information, batch information, laboratory test information and a protocol.
194. (New): The method of claim 189, wherein information is communicated between said laboratory information system and said interface server, said information comprising a first portion and a second portion, said first portion including at least one of test order information and case information sent from said laboratory information system to said interface server, said second portion including status information about a test order.
195. (New): The method of claim 194, wherein said first portion includes case information that is manually entered at said laboratory information system and is communicated from said laboratory information system without further manual data entry.
196. (New): The method of claim 194, wherein said first portion includes test order information and the method further comprising: communicating test result information from said host to said interface server for a test performed by a first instrument of said at least one laboratory instruments; and sending said second portion from said interface server to said laboratory information system, said second portion including status information corresponding to said test result information.
197. (New): The method of claim 196, wherein said interface server manages a database including information about test orders that have not been completed, and, when a test order is complete, information about said test order is removed from said database.
198. (New): The method of claim 197, wherein said host includes a local database of information about tests performed by said first instrument, and the method further

comprising: receiving a request for test information about a completed test performed by said first instrument; requesting said test information from said local database of said host about said completed test; and sending a response to said request, said response including data in accordance with said test information.

199. (New): The method of claim 185, wherein an update to said at least one global data element is automatically replicated to said host and said at least one other host in accordance with ongoing processing performed by each host to obtain data updates from a server managing a database of global data elements.
200. (New): The method of claim 185, wherein said at least one global data element is a configuration data element having a corresponding configuration option.
201. (New): The method of claim 200, wherein said configuration option is for a configurable symbology identifier corresponding to a symbology used with optical encodings in the laboratory.
202. (New): The method of claim 201, wherein one of said instruments controlled by said host operates in accordance with said symbology.
203. (New): The method of claim 202, wherein an optical scanner is one of said instruments controlled by said host, said scanner supporting scanning operations in accordance with said symbology.
204. (New): The method of claim 202, wherein a label printer is one of said instruments controlled by said host, said label printer supporting printing operations in accordance with said symbology.
205. (New): The method of claim 185, wherein said host is configured to identify an element in a laboratory, and the method further comprising: receiving, by a label

associated with said element, an interrogator signal; and transmitting, by said label in response to said interrogator signal, an electromagnetic response signal including at least a first portion of information used for uniquely identifying said element in said laboratory.

- 206. (New): The method of claim 205, wherein said electromagnetic response signal is produced using information encoded in said label associated with said element.
- 207. (New): The method of claim 205, further comprising: determining a location of said element in said laboratory in accordance with said electromagnetic response signal.
- 208. (New): The method of claim 205, wherein said label is affixed to a surface of said element.
- 209. (New): The method of claim 205, wherein said label includes other information imprinted on a surface of said label.
- 210. (New): The method of claim 209, wherein said other information includes optically recognizable data which is readable by a machine.
- 211. (New): The method of claim 209, wherein said other information includes human readable data.
- 212. (New): The method of claim 205, further comprising: encoding said label with other information as said element is processed in accordance with at least one laboratory workflow processing step.
- 213. (New): The method of claim 205, further comprising: using said first portion to obtain additional information about said element from a database.

214. (New): The method of claim 185, wherein said hosts, an interface server, and a laboratory information system are included in a laboratory network, said laboratory information system in communication with said interface server, and said interface server in communication with said host, and wherein one of said instruments controlled by said host is a printer, and the host is configured to automatically print slide labels in response to said interface server receiving an order from a laboratory information system.
215. (New): A method for automatically determining a processing order of a plurality of samples in a laboratory comprising: receiving scheduling inputs, said scheduling inputs including current supply information; and determining a processing order for said plurality of samples in accordance with scheduling inputs on at least one laboratory instrument.
216. (New): The method of claim 215, wherein said scheduling inputs includes laboratory configuration information associated with said at least one laboratory instrument, said laboratory configuration information comprising at least one of: instrument processing capacity, instrument status information, and instrument processing rates.
217. (New): The method of claim 215, wherein said scheduling inputs include quality control information comprising at least one of a number of positive quality control samples, and a number of negative quality control samples.
218. (New): The method of claim 217, wherein said quality control information is determined in accordance with at least one certification criteria for a new reagent.
219. (New): The method of claim 215, wherein said processing order schedules processing for a plurality of laboratory instruments.

220. (New): The method of claim 215, wherein said processing order schedules processing for a plurality of sequentially dependent runs.
221. (New): The method of claim 215, wherein said scheduling inputs includes at least one of: preferred slide groupings, processing prioritization information, processing dependencies, case information for pending testing orders, and performance selection criteria.
222. (New): The method of claim 221, wherein said performance selection criteria includes maximizing throughput.
223. (New): The method of claim 215, wherein said scheduling inputs include at least one of a sample run configuration and configuration override information, and the method further comprising: determining an output state in accordance with at least one of said sample run configuration and said configuration override information.
224. (New): The method of claim 223, wherein said configuration override information includes a variation of a current configuration.
225. (New): A system for laboratory information management and control comprising:
a laboratory information system managing patient and laboratory information;
a first host configured with a local data element and configured to share a global data element, said local data element having a data definition and data value used only by said first host, said host using at least one of said data elements in connection with performing processing on at least one laboratory instrument connected to said first host;
a second host configured to share said global data element; at least one laboratory instrument controlled by said host; and
a server in communication with said laboratory information system and said at least one host, said server managing a database including said global data

element, said server communicating with said first host and said second host to maintain a current copy of said global data element in said database, and in local copies of said global data element at each of said hosts.

226. (New): A method for communicating data in a laboratory information management and control network comprising:
receiving data at a server from a single input point, said data including a first portion comprising at least one of case information, patient information and test order information, said data being entered at said single input point;
storing said data in a first database managed by said server;
automatically replicating said data from said first database to one or more hosts in communication with said server, a first host of said hosts controlling at least one laboratory instrument, said data being replicated without further data entry and using messages exchanged between said server and said first host; and
storing said data in a second database which is local to said first host.
227. (New): The method of Claim 226, wherein said single input point is a laboratory information management system managing patient and laboratory information.
228. (New): The method of Claim 226, wherein said at least one laboratory instrument includes at least one of: an imager, a stainer, a bar code reader, a label printer, an optical scanner, an instrument that writes information to a label, and an instrument that reads information from a label.
229. (New): The method of Claim 226, further comprising:
receiving diagnostic information from a pathologist, wherein at least a portion of said information is received using at least one of: a computer entry station, a touch pad entry device, a voice data entry device, and an interactive video with voice data entry device.
230. (New): The method of Claim 226, further comprising:

recording pathologist diagnostic information on a label associated with a sample using a data recording device in communication with one of said hosts.

231. (New): The method of Claim 226, further comprising:
exchanging communications between said server and said host to automatically maintain a synchronized copy of said data in said first database and said second database in accordance with any updates made to said data by said server, said host, or another component in communication therewith.
232. (New): The method of Claim 228, wherein one of said instruments is an imager, said imager including a local memory or a data storage device upon which some of said data is stored.
233. (New): The method of Claim 232, further comprising:
producing image information using said imager;
storing said image information in said one of said local memory or said data storage device;
uploading said image information to said second database of said host; and
automatically replicating said image information to said first database and another host by exchanging messages therebetween to maintain data synchronization of shared data elements, said image information being a shared data element.
234. (New): The method of Claim 232, further comprising:
reporting, by said imager, identifying information about a sample being processed at a point in time;
communicating said identifying information to said first host; and
automatically replicating said identifying information to said first data and another host by exchanging messages therebetween.
235. (New): The method of Claim 226, wherein said first host controls a first set of one or more laboratory instruments operating in accordance with a first set of

operations, and a second host is in communication with said first host and said server and controls a second set of one or more laboratory instruments operating in accordance with a second set of operations different than the first set of laboratory instruments.

236. (New): The method of Claim 233, further comprising:
storing a portion of said image information on a label associated with a sample.
237. (New): A computer program product for communicating data in a laboratory information management and control network comprising code that:
receives data at a server from a single input point, said data including a first portion comprising at least one of case information, patient information and test order information, said data being entered at said single input point;
stores said data in a first database managed by said server;
automatically replicates said data from said first database to one or more hosts in communication with said server, a first host of said hosts controlling at least one laboratory instrument, said data being replicated without further data entry and using messages exchanged between said server and said first host; and
stores said data in a second database which is local to said first host.
238. (New): The computer program product of Claim 237, wherein said single input point is a laboratory information management system managing patient and laboratory information.
239. (New): The computer program product of Claim 237, wherein said at least one laboratory instrument includes at least one of: an imager, a stainer, a bar code reader, a label printer, an optical scanner, an instrument that writes information to a label, and an instrument that reads information from a label.
240. (New): The computer program product of Claim 237, further comprising code that:

receives diagnostic information from a pathologist, wherein at least a portion of said information is received using at least one of: a computer entry station, a touch pad entry device, a voice data entry device, and an interactive video with voice data entry device.

241. (New): The computer program product of Claim 237, further comprising code that:
records pathologist diagnostic information on a label associated with a sample using a data recording device in communication with one of said hosts.
242. (New): The computer program product of Claim 237, further comprising code that:
exchanges communications between said server and said host to automatically maintain a synchronized copy of said data in said first database and said second database in accordance with any updates made to said data by said server, said host, or another component in communication therewith.
243. (New): The computer program product of Claim 239, wherein one of said instruments is an imager, said imager including a local memory or a data storage device upon which some of said data is stored.
244. (New): The computer program product of Claim 243, further comprising code that:
produces image information using said imager;
stores said image information in said one of said local memory or said data storage device;
uploads said image information to said second database of said host; and
automatically replicates said image information to said first database and another host by exchanging messages therebetween to maintain data synchronization of shared data elements, said image information being a shared data element.

245. (New): The computer program product of Claim 243, further comprising code that:
reports, by said imager, identifying information about a sample being processed at a point in time;
communicates said identifying information to said first host; and
automatically replicates said identifying information to said first data and another host by exchanging messages therebetween.
246. (New): The computer program product of Claim 237, wherein said first host controls a first set of one or more laboratory instruments operating in accordance with a first set of operations, and a second host is in communication with said first host and said server and controls a second set of one or more laboratory instruments operating in accordance with a second set of operations different than the first set of laboratory instruments.
247. (New): The computer program product of Claim 244, further comprising code that:
stores a portion of said image information on a label associated with a sample.
248. (New): A method for automatically scheduling a sample process of a plurality of samples in a laboratory comprising:
receiving a scheduled plurality of sample process operations, said process operations including monitoring supply information; and
scheduling a sample process for said plurality of samples in accordance with scheduled plurality of sample process operations on at least one laboratory instrument.